

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A method for enhancing the capacity of a cellular radio-communication system, a cell of said radio-communication system comprising a base station and end-users able to communicate with said base station by using a first modulation type over a first channel, said cell experiencing an interference level from distant end-users communicating with at least one distant base station by using said first communication channel, said method ~~being characterised in that end-users located in~~ comprising:

determining size and location of at least one domain in said cell based on antenna directivity of said distant end-users and on relative positions of said at least one distant base station and said base station; and

assigning a second modulation type to said at least one domain of said cell in which said interference level is lower than a predefined interference level,

wherein end-users located in said domain communicate with said base station ~~by using a said second modulation type over a second communication channel, said second modulation type having a higher efficiency than said first modulation type, the size and location of said domains in said cell depending on the antenna directivity of said distant end-users and on the relative positions of said distant base stations and said base station.~~

2. (currently amended): A method according to claim 1, ~~characterised in that wherein~~ said end-users are fixed terminals ~~configured~~, said method further comprising configuring said end-users to use only said second modulation type if ~~they~~ said end-users are located in said domains at least one domain in which said interference level is lower than said predefined interference level and configuring said end-users to use only said first modulation type if said end-users are not located in said at least one domain.

3. (currently amended): A method according to claim 1, ~~characterised in that wherein~~ said end-users are mobile terminals able to switch between said first modulation type and said second modulation type ~~depending on the domain they are moving to~~, said method further comprising configuring said end-users to use only said second modulation type if said end-users are located in said at least one domain in which said interference level is lower than said predefined interference level and configuring said end-users to use only said first modulation type if said end-users are not located in said at least one domain.

4. (previously presented): A method according to one of the claim 1, characterised in that, said first modulation type is 4 QAM and said second modulation type is 16QAM.

5. (previously presented): A method according to one of the claim 1, characterised in that said first and second communication channels are channels of a frequency and/or time and/or code division multiplex scheme.

6. (currently amended): A cellular radio-communication system, ~~each~~ comprising:
at least one cell of which comprising at least one domain having an assigned modulation
type;

a base station ~~and, wherein~~ end-users ~~able to~~ communicate with said base station by using
a first modulation type over a first communication channel, ~~;~~ and

at least one distant base station, said cell experiencing an interference level from distant
end-users communicating with said at least one distant base station by using said first
communication channel, ~~said system being characterised in that~~

wherein, when said end-users are located in said at least one domain of said cell in which
and said interference level is lower than a predefined interference level, said assigned modulation
type is a second modulation type and said end-users communicate with said base station by using
a said second modulation type over a second communication channel, said second modulation
type having a higher efficiency than said first modulation type, the and

wherein size and location of said domains in said cell depending at least one domain is
defined based on the antenna directivity of said distant end-users and on the relative positions of
said at least one distant base stations station and said base station.